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Project for International Information Exchange on Dioxins, Furans and Related Chemicals

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A PROJECT FOR INTERNATIONAL INFORMATION EXCHANGE ON DIOXINS, FURANS AND RELATED CHEMICALS

by

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16. ABSTRACT

A project promoting the exchange of information on polychlorinated dibenzo-p-dioxins and related chemicals has been initiated on an international basis. The project is being under the aegis of the Committee on the Challenges of Modern Society of the North Atlantic Treaty Organization. Information being exchanged concerns research and other activities which involve polychlorinated dibenzo-p-dioxins, polychlorinated dibenzofurans and related chemicals. In addition to the major information exchange objective, secondary objectives includes the reduction of research program duplication and the assistance in identification of knowledge voids. NATO-member countries participating are Canada, Denmark, the Federal Republic of Germany, Italy, the Netherlands, Norway, the United Kingdom and the United States. Several international organizations as well as representatives of industrial trade associations and non-governmental environmental public interest groups are participating. The project is divided up into three basic working groups: (1) exposure and hazard assessment, (2) technology assessment, and (3) management of accidents. The first product is a compilation of descriptions of research and other activities involving dioxins and related chemicals published as CCMS Report No. 160. Other informational documents are under preparation and will be publicly available prior to the planned completion of the project in the Spring of 1988.

17. KEY WORDS AND DOCUMENT ANALYSIS

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A Project for International Information Exchange on Dioxins, Furans and Related Chemicals

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A project promoting the exchange of information on polychlorinated dibenzodioxins and related chemicals on an international basis has been initiated. The project is being conducted under the aegis of the Committee on the Challenges of Modern Society (CCMS) of the North Atlantic Treaty Organization (NATO). Information being exchanged concerns research and other activities which involve polychlorinated dibenzo-p-dioxins, polychlorinated dibenzofurans and related chemicals. The project represents recognition on the part of the governments involved that dioxins and furans have the potential to be major environmental problems. In addition to the major information exchange objective, secondary objectives include the reduction of research program duplication and the assistance in identification of knowledge voids.

NATO-member countries participating in this project are Canada, Denmark, the Federal Republic of Germany, Italy, the Netherlands, Norway, the United Kingdom and the United States. The government of Austria, not a member of NATO, is involved as an observer. International organizations participating are the World Health Organization, the United Nations Environmental Programme, the Organization for Economic Cooperation and Development, and the Commission of European Communities. Several of the governments have requested representatives of industrial

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trade organizations and non-governmental environmental public interest groups to serve as observers on their delegations. For example, the Chemical Manufacturers Association as a representative of the American chemical industry and the Environmental Defense Fund representing the American public interest environmental groups are involved as observers on the U.S. delegation.

The project is divided into three basic working groups: (1) exposure and hazard assessment, chaired by the United States; (2) technology assessment, chaired by the Federal Republic of Germany; and (3) management of accidents involving dioxins, chaired by Italy. Major information exchange areas in the exposure and hazard assessment working group include definition of dioxins and related compounds, their physico-chemical properties; chemical analysis of dioxins and related compounds; accumulation, mobility and transformation; bioavailability and exposure; toxicity, including epidemiology; food chain contamination; and comprehensive risk assessment. Information exchange areas being addressed by the technology assessment working group are identification of sources of dioxins; emission of dioxins and furans from combustion and incineration sources; destruction, detoxification and containment methods; and handling and management of contaminated materials. The management of accidents working group is exchanging information on contingency planning, immediate emergency response, long-term rehabilitation, and data on past accidents.

The first product of the project is a compilation of descriptions of research and other activities involving dioxins and related compounds published as CCMS Report Number 160, released in the spring of 1986. This document is available upon request of the authors and summarizes the activities conducted in each of the participating countries. A revised compilation is being prepared, and along with an analysis of activities, will be available late in 1987. Another product under development is an inventory of analytical centers in the participating countries with

expertise in the detection of dioxins, furans and related compounds. This listing of analytical centers will contain notes on the quality assurance schemes employed at each location. A list of statutes and regulations which involve the control of dioxins and furans is also being compiled by each participating country. This list of statutes and regulations will provide information for international exchange on both the Federal level as well as on the smaller political jurisdictions.

A study group has been established under the exposure and hazard working group to investigate methods for risk assessment of the complex mixtures of isomers found in these chemicals. The major focus of the study group is the "toxic equivalency factor" (TEF) method of risk assessment. The work of the study group will culminate in a workshop on this topic to be held in conjunction with the DIOXIN 87 symposium scheduled for Las Vegas, NV, USA, in October, 1987.

This project was adopted by the Plenary Session of the CCMS held in Brussels, Belgium, in May, 1985, and is scheduled for a duration of three years. The first meeting of project participants was held at the University of Bayreuth, Federal Republic of Germany, in September, 1985, and was organizational in nature. The second meeting was held at the University of Nevada at Las Vegas in cooperation with the Environmental Monitoring Systems Laboratory of the U.S. EPA in Las Vegas in September, 1986. Another meeting of all working group participants is being planned for Como, Italy, in July, 1987. Agenda items at these meetings include reports on all products under development and the future direction of the project.

This project involving the exchange of information on dioxins, furans, and related chemicals is one of the numerous undertakings sponsored by CCMS. Since NATO formally established CCMS in 1969, the cooperative efforts of member nations have been applied to solving practical problems impacting society. Initially proposed to give the Alliance a greater influence in international social issues, CCMS has

expanded to become a powerful force by combining the knowledge and resources of many towards a singular goal. CCMS-sponsored studies are designed to provide a better understanding of the effects of our technology intensive way of life and stimulate actions to remedy the problems. As of 1984, 25 pilot studies had been completed and 13 new ones were underway. The Committee has addressed a large spectrum of technical and social problems, but environmental issues have been at the heart of the group's efforts, and this dioxin study follows suit. Consequently, the U.S. Environmental Protection Agency has been the lead agency in representing the United States on the committee. Some of the studies completed by CCMS were: Inland Water Pollution, Solar Energy, Nutrition and Health, and Drinking Water.

In all cases, the pilot studies must be initiated by a lead country which is responsible for developing and conducting the project. Following CCMS' approval of the proposed pilot study, the work is carried out by experts nominated by member countries or by CCMS Fellows. Perhaps one of the most effective vehicles for promoting widespread participation in the pilot studies is provided through the CCMS Fellowship Programme. The Programme enables experienced researchers to contribute to the projects in an adjunct manner. The Fellows' work is carried out under the guidance of the respective pilot study director to ensure compatibility within the scope of the program. Therefore, the knowledge and expertise of others may compliment the overall efforts of CCMS.

All member countries, whether they actively contribute or not, benefit from all pilot studies conducted by CCMS. In many of the programs which address topics with a wide variety of related issues, joint pilot countries may be responsible for planning, conducting, and reporting on each component of the study. At the completion of each project, the pilot countries report on the conclusions of the study and provide recommendations for further work in the area. A unique aspect of the CCMS programs has been the development of a follow up procedure to ensure that the actions taken are the most appropriate to meet the interests of the group.

In conclusion, the projects conducted under the auspices of CCMS benefit from the cooperative efforts of member countries by combining their expertise for the common good.